

37



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,098	10/15/2001	Hiroaki Yoshino	35.G2919	9468

5514 7590 07/25/2006

FITZPATRICK CELLA HARPER & SCINTO
 30 ROCKEFELLER PLAZA
 NEW YORK, NY 10112

EXAMINER

JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
----------	--------------

2626

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/976,098	YOSHINO ET AL.	
	Examiner	Art Unit	
	Jakieda R. Jackson	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-8 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,5-8 and 12-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 28, 2006 has been entered.

Response to Arguments

2. Independent claim 1 recites, *inter alia*, display control means for controlling displaying of a recording character string indicating a sentence to be recorded, re-input instruction means for issuing an instruction to input speech once again when it is determined by determination means that a matching rate (of a recognized character string pattern with a recording character string pattern) does not exceed a predetermined level, and presentation means for presenting to a user an unmatched portion between the recognized character string pattern and the recording string pattern. Each of the independent claims 8 and 15-18 recites, *inter alia*, the same or similar features. Applicant respectfully submits that none of the cited art would teach or suggest at least these features recited in the independent claims.

Applicant's argues that Keiller's invention involves comparing two user's utterances, but does not suggest a comparison or matching rate between a user's utterance and a recording character string. Accordingly Keiller is not understood to

teach or suggest the claimed re-input instruction means. Applicant's arguments are persuasive, however are moot in view of new grounds of rejection.

Applicant's also argues that according to Yu, the user is presented with matching character strings (character-substituted input character strings matching dictionary entries), not with an unmatched portion between a recognized character string pattern and a recording character string pattern. Neither the character-substituted input character strings nor the dictionary entries are recognized character strings or recording character strings, as those terms are defined in the independent claimed (Yu does not involve (inputted) speech or speech recognition). Nothing in Yu is understood to teach or suggest the claimed presentation means. However, according to the claim, it recites "presentation means for presenting to the user an unmatched portion between the recognized character string pattern and the recording character string pattern", so that the user is easily able to identify the error. Yu teaches that unrecognized character strings are identified and a notification or indication is provided to the user. Displaying it on the display screen can easily identify this character string. Underlines, bold italics, flashing etc. can also easily identify the unrecognized character string (column 6, lines 8-29). Therefore, Applicant's arguments are not persuasive.

Applicant's further argues that Koizumi et al's device is not engaged in recording speech, e.g., for the purpose of being trained to recognize speech. Rather, the device is for the purpose of being trained to recognize speech. Rather, the device is for the purpose of translating a user's desired sentence. Nothing in Koizumi et al's device teach a display control means for controlling displaying of the recording character string

indicating the sentence to be recorded. Applicant's arguments are persuasive, however are moot in view of new grounds of rejection.

Applicant's also argue that Keiller, Yu and Koizumi et al. relates to different fields of endeavor and is directed to an entirely different problem. In response to applicant's argument it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Yu invention does deal with spelling correction, however, it teaches the information described above, which is pertinent to the particular problem. Koizumi has been withdrawn and therefore will not be addressed.

Further, Applicant's argue that there is no suggestion or motivation to combine any of the above documents. It is submitted that the obviousness rejections in the Office Action are based on impermissible hindsight.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

With regard to combining Yu with Keiller, the Office Action cites motivation "to identify unrecognized character strings (for example, misspelled words) and to provide a notification or indication [thereof]. However, such motivation has no application to Keiller, since Keiller is concerned with speech recognition, not at all with spelling. Misspellings are not a problem in, or relevant to, Keiller's subject matter. In response to applicant's argument the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 5-8, 12-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Keiller (USPN 6,560,575) in view of YU (USPN 6,556,841), in further view of Ho et al. (USPN 6,697,777), hereinafter referenced as Ho and in further view of Chihara (USPN 6,470,316).

Regarding claims **1, 8, and 15**, Keiller discloses an apparatus, method and system for recording speech, to be used as learning data for recognizing input speech, comprising:

storage means for storing a recording character string indicating a sentence to be recorded (column 16, lines 12-19);

recognition means for recognizing input speech of the displayed sentence that a user reads out, and for obtaining a recognized character string (input is taken as two training examples: one a new example and one an already existing example; column 15, lines 25-35) corresponding to the stored recording character string pattern (column 16, lines 16-19);

determination means for comparing a pattern of the recognized character string with a pattern if the recording character string stored in said storage means so as to obtain a matching rate therebetween, and determining whether said matching rate exceeds a predetermined level (system checks whether training examples are consistent (column 15, lines 28-30) by computing the consistency scores (column 15, lines 53-65) and comparing the result again against the threshold (95%, column 16, lines 6-8); and

recording means for recording the input speech as the learning data for recognizing speech when it is determined by said determination means that said matching rate exceeds a predetermined level (if the results are consistent, they are used to generate a model for word being trained (column 15, lines 27-30), so inherently, the generated model is stored (recorded) to some memory means (see also column 16,

lines 12-15), but does not specifically teach display control means, re-input instruction means and presentation means.

Yu discloses a speech correction device further comprising presentation means for presenting an unmatched portion (no substantial match) between the recognized character string pattern (character strings) and the recording character string (plurality of character strings stored in a dictionary; column 5, lines 15-22 with column 6, lines 8-29), for implementing spell checking and correcting applications.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller's apparatus and method further comprising presentation means for presenting an unmatched portion between the recognized character string pattern and the recording character string pattern to a user as a result of performing the DP matching by said determination means, to identify unrecognized character strings (e.g. misspelled words) and to provide a notification or indication (column 6, lines 27-29).

Keiller in view of Yu teaches storage means, determination means, recording means and presentation means, but does not specifically teach display control means and recognition means.

Ho discloses a speech recognition device comprising a display control means for controlling displaying of the recording character string indicating the sentence to be recorded (column 6, lines 7-20), to offer feedback to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Yu's apparatus and method

wherein it comprises a display control means, as taught by Ho, to offer feedback to the user with respect to the progress of the speech translation (column 2, lines 5-9).

Keiller in view of Yu and Ho teaches a storage means, display control means determination means, recording means and presentation means, but does not specifically teach a re-input instruction means.

Chihara teaches a speech synthesis apparatus comprising a re-input means for issuing an instruction to input speech once again when it is determined by said determination means that the matching rate does not exceed the predetermined level (secondary determination; column 8, line 63 – column 9, line 5), to obtain a final determination.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify in view of Yu and Ho's apparatus and method wherein it comprises a re-input instruction means, to obtain secondary information to determine whether or not the information is the correct result (column 8, line 63 – column 9, line 5).

Regarding **claims 5 and 12**, Keiller discloses an apparatus and method for recording speech, to be used as learning data in speech recognition processing, but lacks wherein said presentation means presents the unmatched portion so as to identify the type of error as an insertion error, a deletion error, or a substitution error, as determined by said determination means.

Yu discloses a speech correction device wherein said presentation means presents the unmatched portion so as to identify the type of error (column 5, line 35) as

Art Unit: 2626

an insertion error (adding the character input; column 3, lines 46-52), a deletion error (? indicates that variations due; column 8, lines 44-47), or a substitution error (character substitution; column 8, lines 3-29 with column 7, lines 41-42 and lines 61-66), as determined by said determination means (column 7, lines 11-42), for notification and identification of unrecognized words.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller's apparatus and method wherein said presentation means presents the unmatched portion so as to identify the type of error as an insertion error, a missing error, or a substitute error, as a result of performing the DP matching by said determination means, to identify unrecognized character strings (e.g. misspelled words) and to provide a notification or indication (column 6, lines 26-28).

Regarding **claims 6 and 13**, Keiller discloses an apparatus and method for recording speech, to be used as learning data in speech recognition processing, but lacks wherein said presentation means simultaneously displays the recognized character string and the recording character string on a screen by changing a character attribute or a background attribute of an unmatched portion or a matched portion of at least one of the recognized character string and the recording character string.

Yu discloses a speech correction device wherein said presentation means simultaneously displays the recognized character string and the recording character string on a screen by changing a character attribute or a background attribute of an unmatched portion or a matched portion of at least one of the recognized character

Art Unit: 2626

string and the recording character string, (underlined, bold, italics etc.; column 6, lines 8-18), for notification and identification of unrecognized words.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller's apparatus and method wherein said presentation means simultaneously displays the recognized character string and the recording character string on a screen by changing a character attribute or a background attribute of an unmatched portion or a matched portion of at least one of the recognized character string and the recording character string, to identify unrecognized character strings (e.g. misspelled words) and to provide a notification or indication (column 6, lines 26-28).

Regarding **claims 7 and 14**, Keiller discloses an apparatus and method for recording speech, to be used as learning data in speech recognition processing, but lacks wherein said presentation means simultaneously displays the recognized character string and the recording character string on a screen by causing unmatched portion or matched portion of at least one recognized character string and the recording character string to blink (flashing; column 6, lines 8-18), for notification and identification of unrecognized words.

Yu discloses a speech correction device wherein said presentation means simultaneously displays the recognized character string and the recording character string on a screen by causing unmatched portion or matched portion of at least one recognized character string and the recording character string to blink.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller's apparatus and method wherein said presentation means simultaneously displays the recognized character string and the recording character string on a screen by causing unmatched portion or matched portion of at least one recognized character string and the recording character string to blink, to identify unrecognized character strings (e.g. misspelled words) and to provide a notification or indication (column 6, lines 26-28).

Regarding **claim 16**, Keiller discloses a speech recognition method comprising:
a learning recognition step of recognizing input speech, of the displayed sentence that a user reads out, and for obtaining a recognized character string (input is taken as two training examples: one a new example and one an already existing example; column 15, lines 25-35);

a determination step of comparing a pattern of the recognized character string with a pattern of a recording character string indicating a sentence to be recorded so as to obtain a matching rate therebetween, and of determining whether said matching rate exceeds a predetermined level (system checks whether training examples are consistent (column 15, lines 28-30) by computing consistency scored (column 15, lines 53-65) and comparing the result against a threshold (95%, column 16, lines 6-8));

a recording step of recording the input speech as the learning data for recognizing speech when it is determined in said determination step that said matching rate exceeds a predetermined level (if results are consistent, they are used to generate

a model for word being trained (column 15, lines 27-30), so inherently, the generated model is stored (recorded) to a memory means (column 16, lines 12-19));

a learning step of performing learning on a speech model by using the input speech recorded in said recording step (the process described above provides general training of the model; column 16, lines 14-20); and

a recognition step of recognizing unknown input speech by using the speech model learned in said learning step (training data is used in general recognition; column 16, lines 14-20), but does not specifically teach display control means, re-input instruction means and presentation means.

Yu discloses a speech correction device further comprising presentation means for presenting an unmatched portion (no substantial match) between the recognized character string pattern (character strings) and the recording character string (plurality if character strings stored in a dictionary; column 5, lines 15-22 with column 6, lines 8-29), for implementing spell checking and correcting applications.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller's apparatus and method further comprising presentation means for presenting an unmatched portion between the recognized character string pattern and the recording character string pattern to a user as a result of performing the DP matching by said determination means, to identify unrecognized character strings (e.g. misspelled words) and to provide a notification or indication (column 6, lines 27-29).

Keiller in view of Yu teaches storage means, determination means, recording means and presentation means, but does not specifically teach display control means and recognition means.

Ho discloses a speech recognition device comprising a display control means for controlling displaying of the recording character string indicating the sentence to be recorded (column 6, lines 7-20), to offer feedback to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Yu's apparatus and method wherein it comprises a display control means, as taught by Ho, to offer feedback to the user with respect to the progress of the speech translation (column 2, lines 5-9).

Keiller in view of Yu and Ho teaches a storage means, display control means determination means, recording means and presentation means, but does not specifically teach a re-input instruction means.

Chihara teaches a speech synthesis apparatus comprising a re-input means for issuing an instruction to input speech once again when it is determined by said determination means that the matching rate does not exceed the predetermined level (secondary determination; column 8, line 63 – column 9, line 5), to obtain a final determination.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify in view of Yu and Ho's apparatus and method wherein it comprises a re-input instruction means, to obtain secondary information to

determine whether or not the information is the correct result (column 8, line 63 – column 9, line 5).

Regarding **claims 17 and 18**, Keiller discloses a control program having computer readable program code and a speech recognition method, comprising:

a second program code unit for recognizing input speech of the displayed sentence that a user reads out, and for obtaining a recognized character string (input is taken as two training examples: one a new example and one an already existing example; column 15, lines 25-35);

a third program code unit for comparing a pattern of the recognized character string with a pattern of the recording character string so as to obtain a matching rate therebetween, and for determining whether said matching rate exceeds a predetermined level system checks whether training examples are consistent (column 15, lines 28-30) by computing consistency scored (column 15, lines 53-65) and comparing the result against a threshold (95%, column 16, lines 6-8);

a fourth program code unit for recording the input speech as the learning data for recognizing speech when it is determined by said determination step that said matching rate exceeds a predetermined level (if results are consistent, they are used to generate a model for word being trained (column 15, lines 27-30), so inherently, the generated model is stored (recorded) to a memory means (column 16, lines 12-19);

a fourth program code unit for performing learning on a speech model by using the input speech recorded in said record step (the process described above provides general training of the model; column 16, lines 14-20); and

a eighth program code unit for recognizing unknown input speech by using the speech model learned in said learning step (training data is used in general recognition; column 16, lines 14-20), but does not specifically teach display control means, re-input instruction means and presentation means.

Yu discloses a speech correction device further comprising presentation means for presenting an unmatched portion (no substantial match) between the recognized character string pattern (character strings) and the recording character string (plurality of character strings stored in a dictionary; column 5, lines 15-22 with column 6, lines 8-29), for implementing spell checking and correcting applications.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller's apparatus and method further comprising presentation means for presenting an unmatched portion between the recognized character string pattern and the recording character string pattern to a user as a result of performing the DP matching by said determination means, to identify unrecognized character strings (e.g. misspelled words) and to provide a notification or indication (column 6, lines 27-29).

Keiller in view of Yu teaches storage means, determination means, recording means and presentation means, but does not specifically teach display control means and recognition means.

Ho discloses a speech recognition device comprising a display control means for controlling displaying of the recording character string indicating the sentence to be recorded (column 6, lines 7-20), to offer feedback to the user.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Yu's apparatus and method wherein it comprises a display control means, as taught by Ho, to offer feedback to the user with respect to the progress of the speech translation (column 2, lines 5-9).

Keiller in view of Yu and Ho teaches a storage means, display control means determination means, recording means and presentation means, but does not specifically teach a re-input instruction means.

Chihara teaches a speech synthesis apparatus comprising a re-input means for issuing an instruction to input speech once again when it is determined by said determination means that the matching rate does not exceed the predetermined level (secondary determination; column 8, line 63 – column 9, line 5), to obtain a final determination.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify in view of Yu and Ho's apparatus and method wherein it comprises a re-input instruction means, to obtain secondary information to determine whether or not the information is the correct result (column 8, line 63 – column 9, line 5).


Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 571.272.7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ
July 18, 2006


DAVID HUDSPETH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2626